

# Stock Structure Examples

## Salmon and Hooligans

Stocks – Populations

SHRU – Management Unit

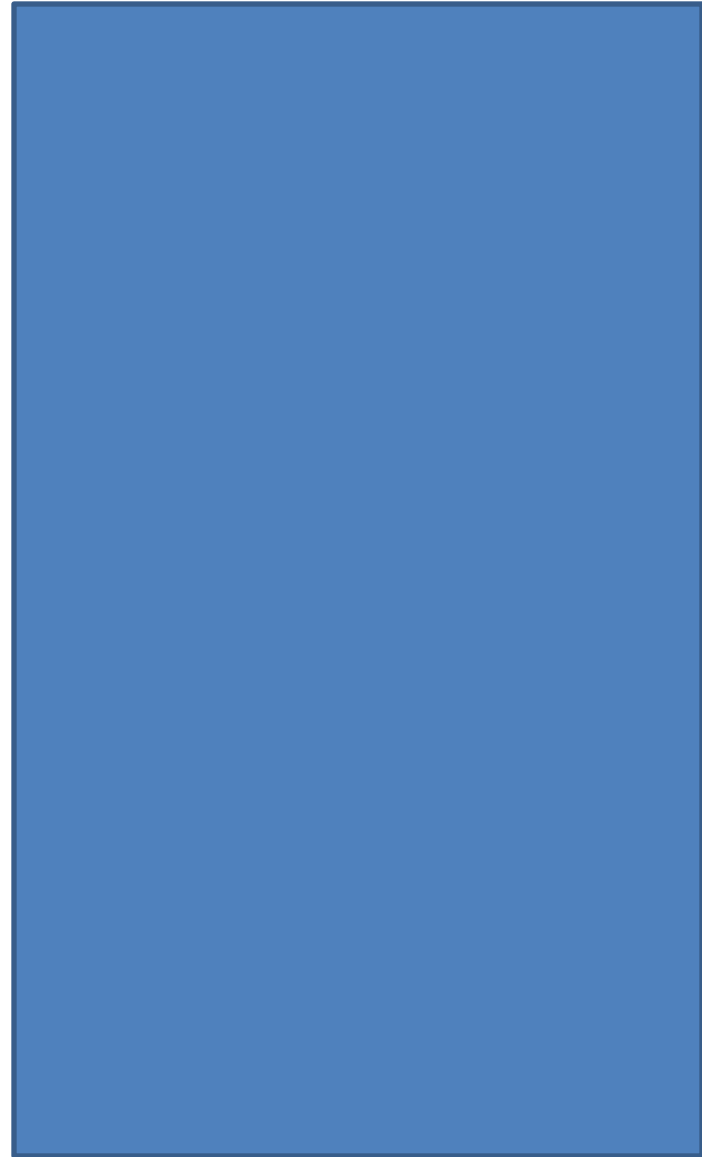
Evolutionarily Significant Unit DPS

Species

# The Geography

*Rivers*

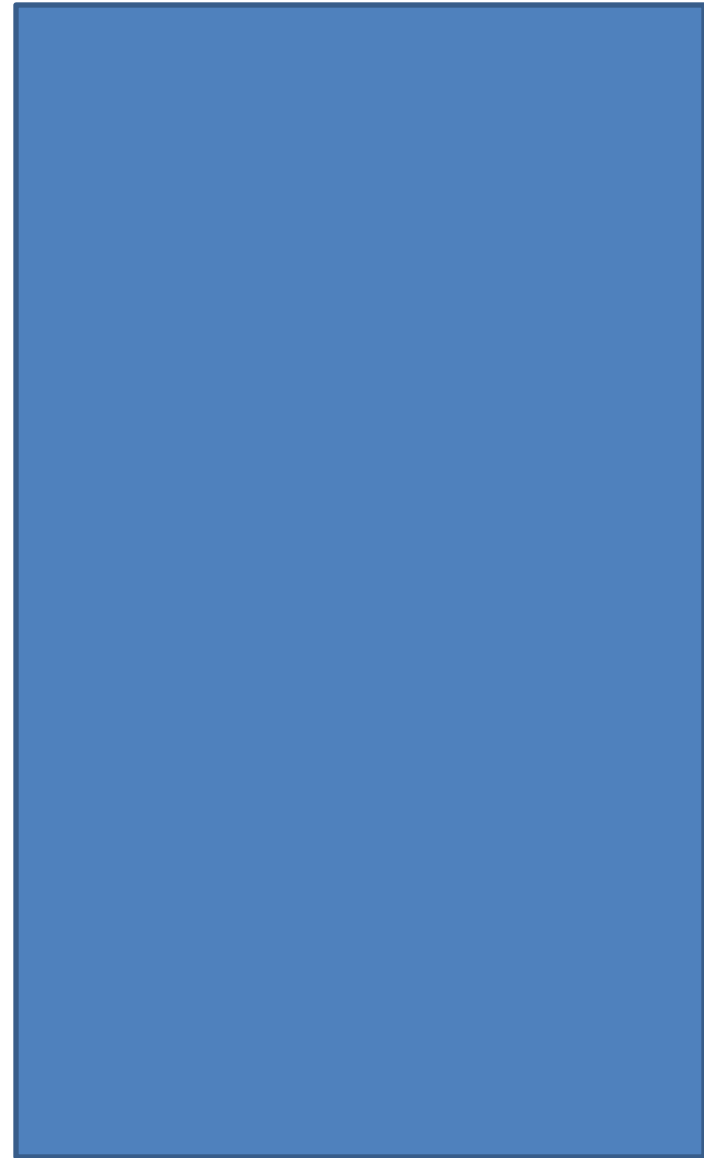
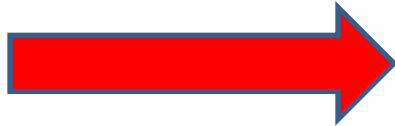
*Ocean*



# The Fish

*Rivers*

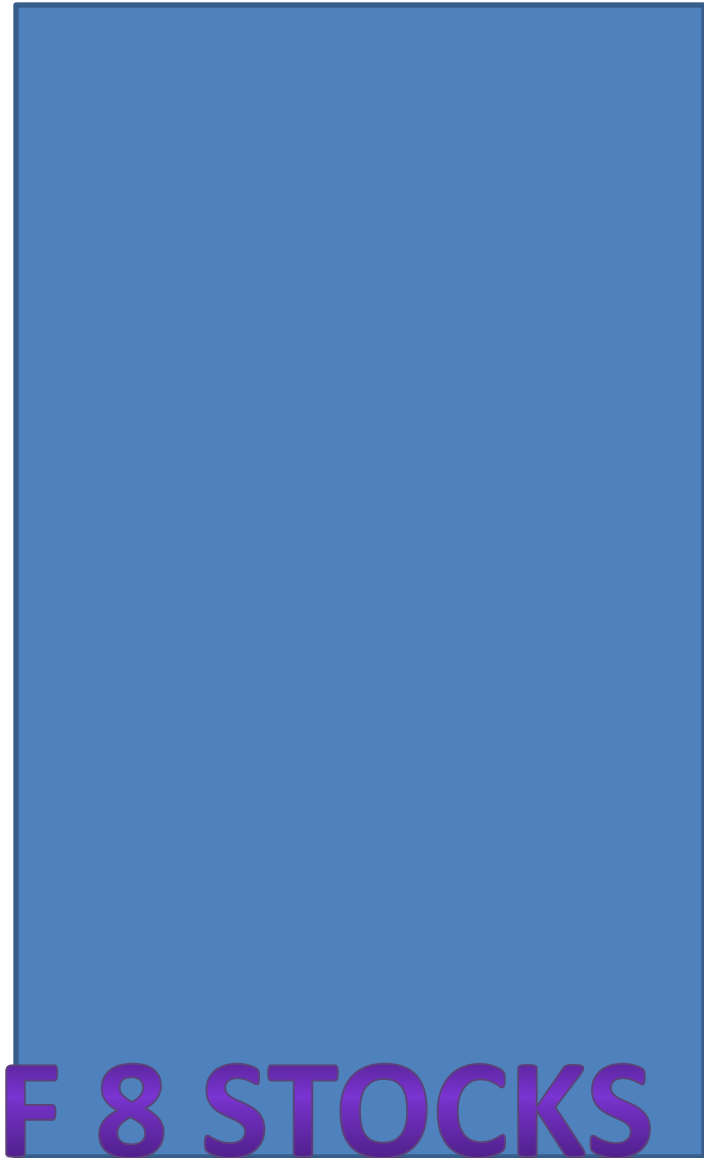
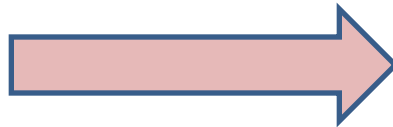
*Ocean*



Splitting

Rivers

Ocean

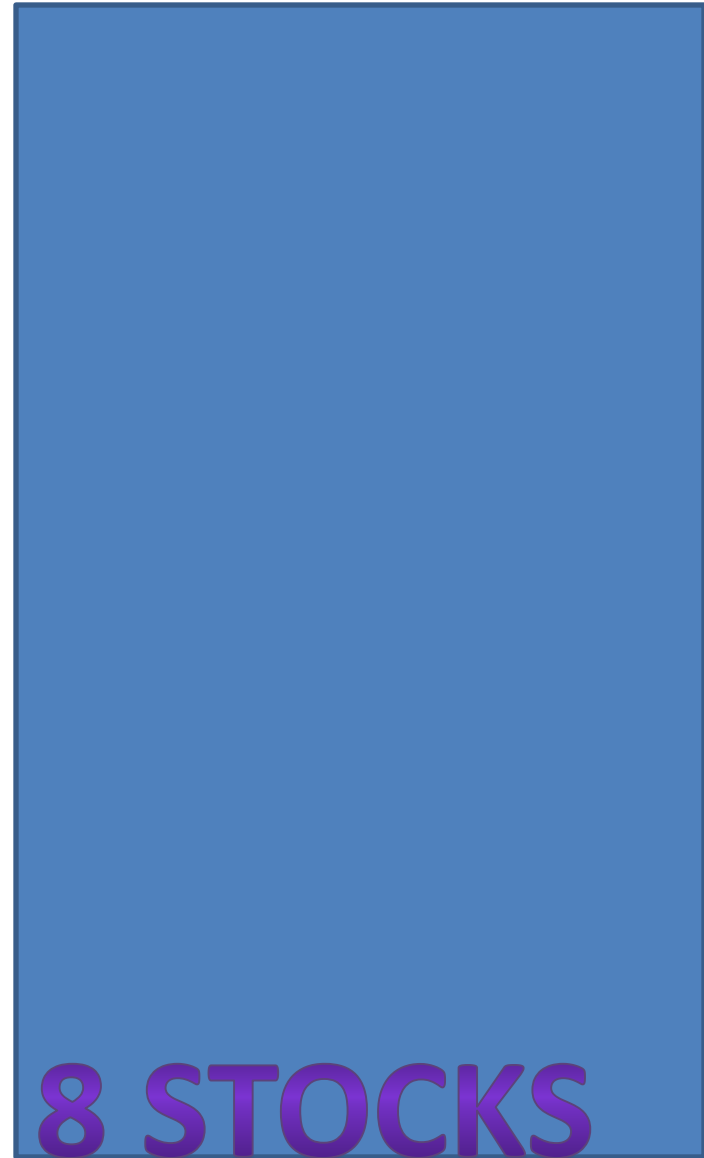


8 DPS OF 8 STOCKS

*Rivers*

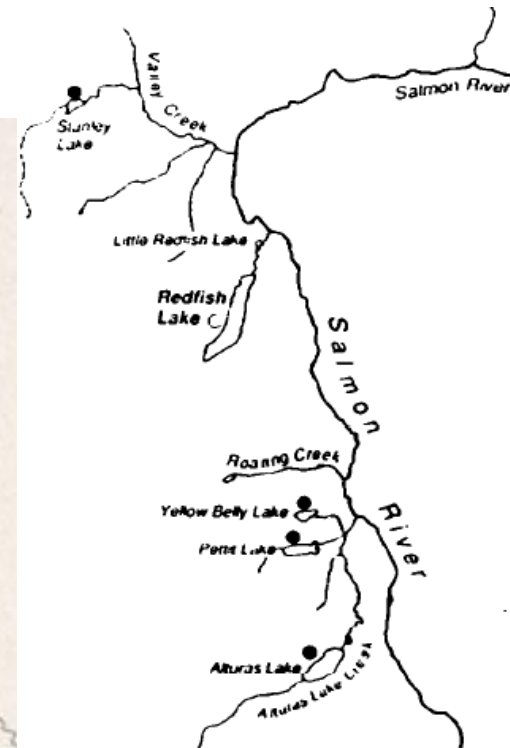
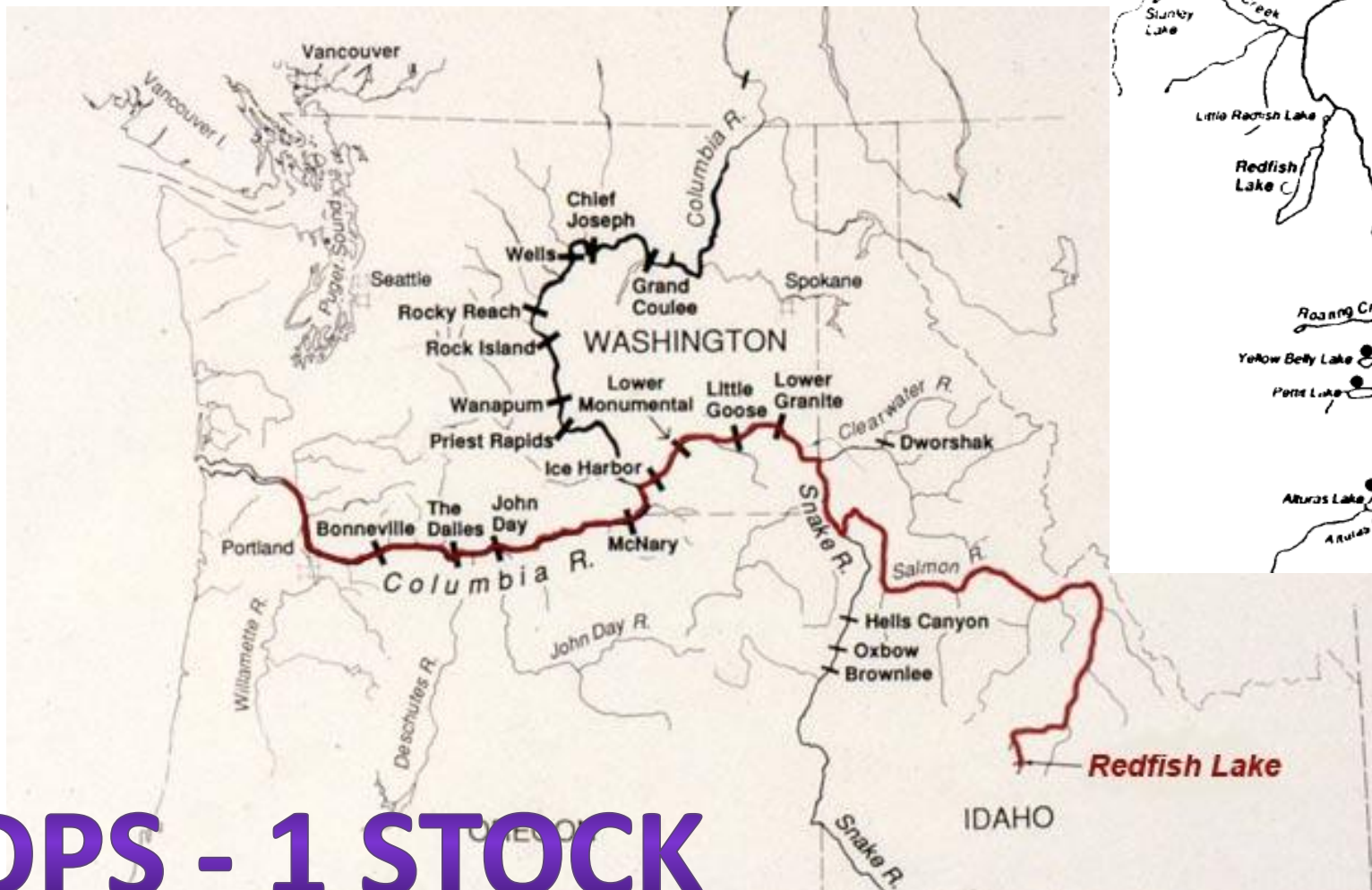
Lumping

*Ocean*



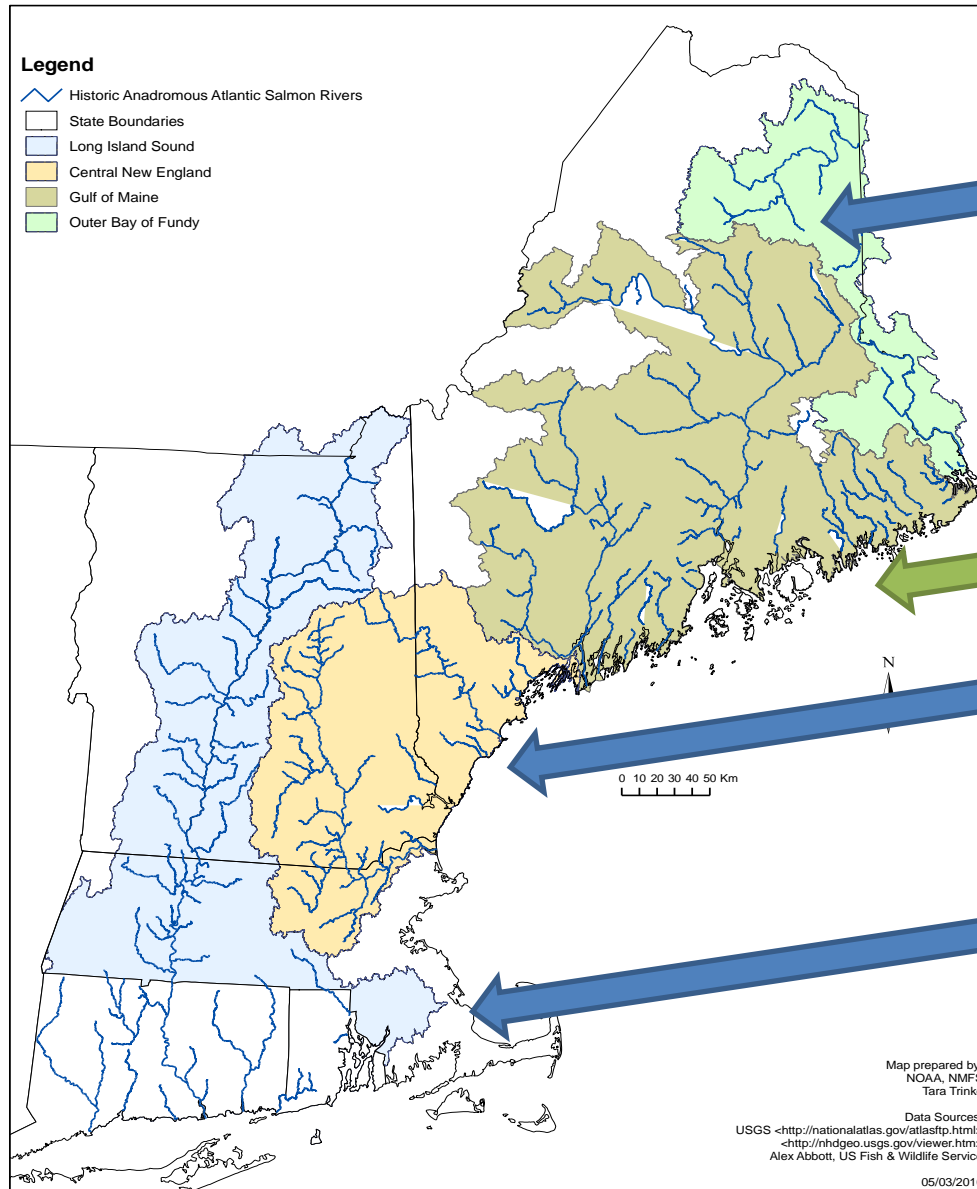
1 DPS - 8 STOCKS

# Redfish Lake Sockeye



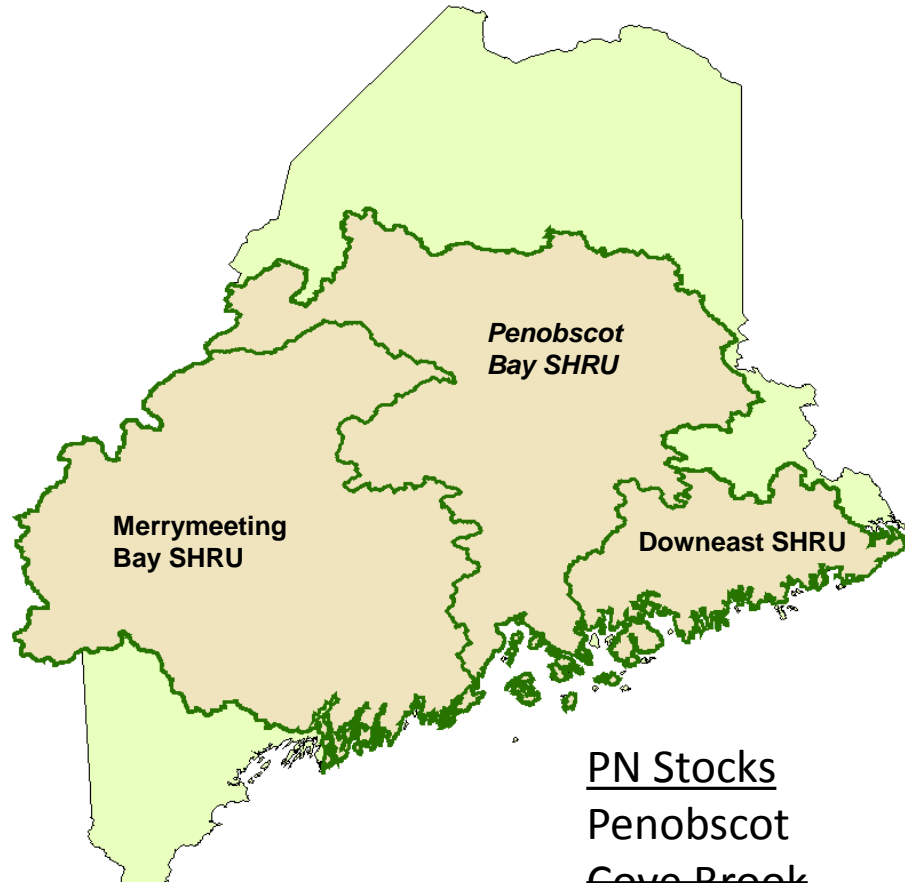
DPS - 1 STOCK

# Atlantic Salmon DPS Areas



- Outer Bay of Fundy
- Gulf of Maine
  - Penobscot
  - Kennebec
  - Androscoggin
- Central New England
  - Saco
  - Merrimack
- Long Island Sound
  - Connecticut

# Atlantic Salmon



Merrymeeting Bay  
Sheepscot

PN Stocks  
Penobscot  
~~Cove Brook~~  
**Ducktrap**

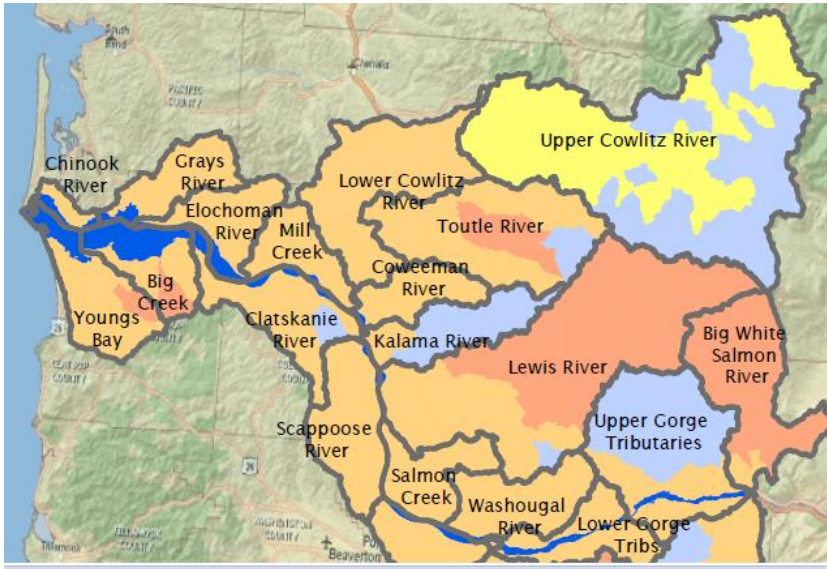
DE Stocks  
Dennys  
E. Machias  
Machias  
Narraguagus  
Pleasant

**DPS - 8 STOCKS/3MGMT UNITS**

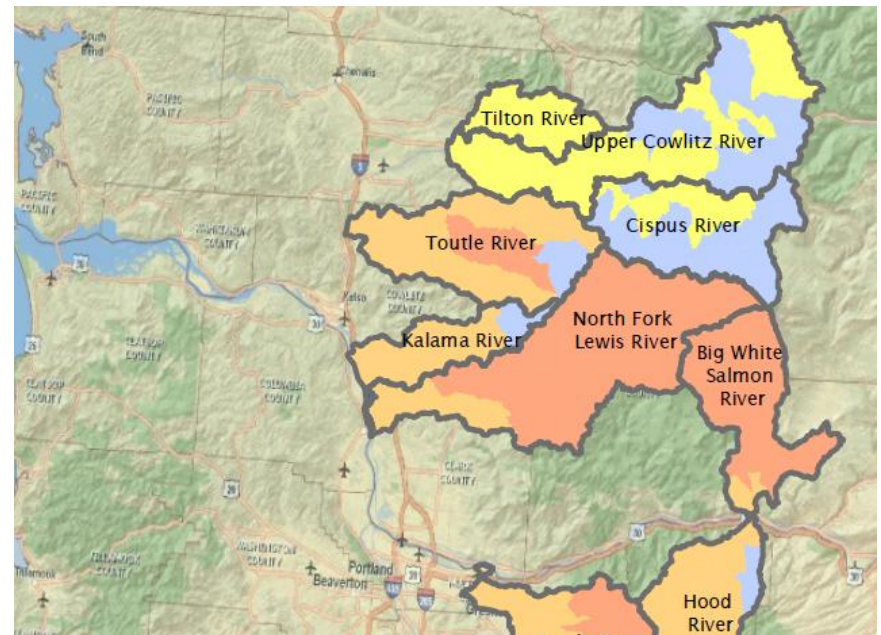


# Columbia Chinook

Chinook salmon, fall run

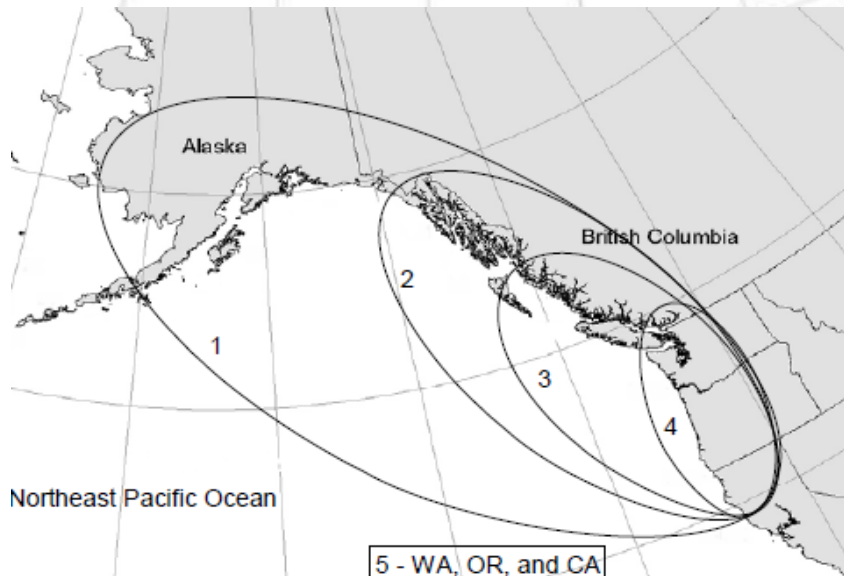


Chinook salmon, spring run



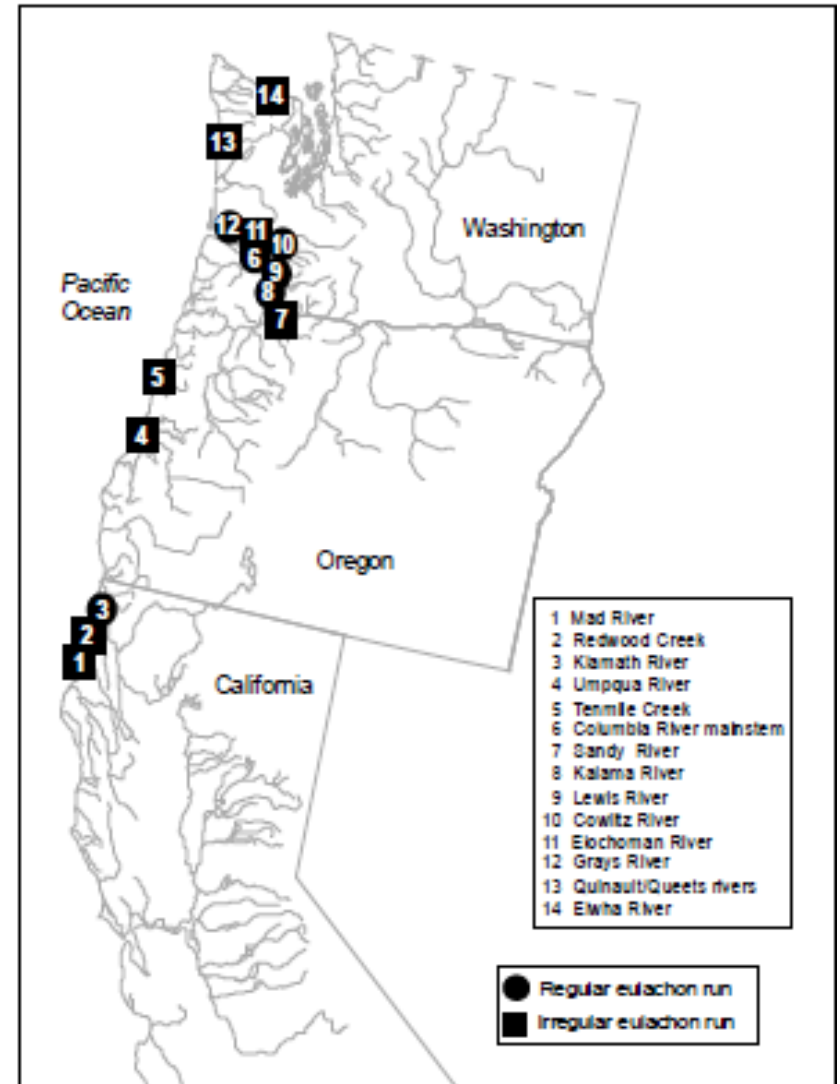
**2 DPS – 1 LOCATION, DIFF MGMT UNITS**

# Eulachon - Hooligans



5 - WA, OR, and CA

6 - Multiple DPSs in conterminous USA



- 1 Mad River
- 2 Redwood Creek
- 3 Klamath River
- 4 Umpqua River
- 5 Tenmile Creek
- 6 Columbia River mainstem
- 7 Sandy River
- 8 Kalama River
- 9 Lewis River
- 10 Cowlitz River
- 11 Elkhorn River
- 12 Grays River
- 13 Quinalt/Queets rivers
- 14 Elwha River

- Regular eulachon run
- Irregular eulachon run

# Eulachon

Based on this review, we conclude that eulachon populations spawning from the Skeena River in British Columbia (inclusive) south to the Mad River in Northern California (inclusive) meet the discreteness and significance criteria for a DPS (61 FR 4722, February 7, 1996; NMFS, 2008). These southern DPS eulachon are **discrete** from eulachon occurring north of this area

based on  
differences in **spawning  
temperatures;  
length- and weight-at maturity**  
in the species' range;  
**ecological features of both the marine  
and freshwater environments occupied**  
by eulachon; and **genetic characteristics**.



The southern DPS is **significant** to the species as a whole because it constitutes over **half of the geographic range** of the taxonomic species' distribution, and it includes **two of the known major production areas (Columbia and Fraser rivers)** and a third area that may have been historically a major production area (Klamath River).